Amendments to the Claims:

Please cancel claims 1 to 9 as presented in the underlying International Application No. PCT/EP2003/009921.

Please add new claims 10 to 18 as indicated in the listing of claims below.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 to 9 (cancelled).

Claim 10 (new): A method for mounting a flap on a workpiece, the flap being positioned precisely with respect to a reference area on the workpiece using a gripping tool guided by a robot, the gripping tool including a securing device for holding the flap and a sensor system fixedly connected to the gripping tool, the sensor system including at least one sensor, the method including:

moving the gripping tool during a positioning phase from a proximity position independent of a workpiece position of the workpiece in a working space of the robot into a mounting position, the flap in the mounting position being held in the gripping tool and being oriented in a precisely positioned fashion with respect to the reference area of the workpiece, the flap being connected to the workpiece in the mounting position of the gripping tool,

the moving including running an iterative closed-loop control process, the closed-loop control process including:

generating an actual measured value of the at least one sensor;

comparing the actual measured value with a setpoint measured value generated during a setup phase,

calculating a movement vector of the gripping tool from a difference between the actual measured value and the setpoint measured value using a Jacobi matrix calculated during the setup phase; and

moving the gripping tool by an amount equal to the movement vector.

Claim 11 (new): The method as recited in claim 10 wherein the iterative closed-loop control process is completed if either the difference between the setpoint measured value and actual measured value lies below a predetermined threshold value, or a reduction, brought about in successive iteration steps, in the difference lies below a predefined threshold.

Claim 12 (new): The method as recited in claim 10 further comprising, following the closed loop control process,

moving the gripping tool into an avoidance position in a open-loop controlled fashion;

attaching attachment elements to the workpiece using a robot-controlled hinge mounting system;

moving the gripping tool back into the mounting position in an open-loop controlled fashion from the avoidance position;

attaching the flap held in the gripping tool to the attachment elements.

Claim 13 (new): The method as recited in claim 12 wherein to attach the attachment elements to the workpiece the hinge mounting system is first moved under the control of a further robot into a further proximity position independent of the position of the workpiece in the working space of the further robot, the hinge mounting system then being moved in an iterative closed-loop control process into a hinge working position, the hinge mounting system in the hinge working position being oriented in a precisely positioned fashion with respect to the gripping tool, and a processing operation then being carried out under the control of the further robot to connect the attachment elements fed from the hinge mounting system to the workpiece.

Claim 14 (new): The method as recited in claim 12 wherein the attachment elements are hinges screwed to the workpiece and to the flap.

Claim 15 (new): The method as recited in claim 10 wherein a TCP/IP interface is used for communicating between an open-loop control system of the robot and an evaluation unit of the sensor system.

Claim 16 (new): The method as recited in claim 10 wherein the flap is a vehicle door and the workpiece a vehicle body.

Claim 17 (new): A device for mounting a flap on a workpiece comprising:

a gripping tool guided using a robot;

a sensor system fixedly connected to the gripping tool and including a metrically-non-calibrated sensor;

an open-loop control system for open-loop controlling the robot and the gripping tool; and

an evaluation unit for evaluating measured values of the sensor system.

Claim 18 (new): The device as recited in claim 17 wherein the sensor is an optical gap measuring sensor.